Name Key Date

Complete the charts using the special right triangle patterns.

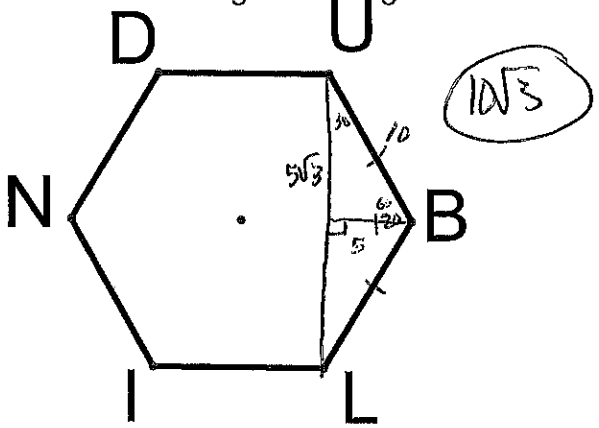
	30°	60°	90°
1.	x	$x\sqrt{3}$	$2x$
2.	4	$4\sqrt{3}$	8
3.	7	$7\sqrt{3}$	14
4.	8	$8\sqrt{3}$	16
5.	$\sqrt{5}$	$\sqrt{15}$	$2\sqrt{5}$
6.	$\sqrt{10}$	$\sqrt{30}$	$2\sqrt{10}$

$\sqrt{3}$

	45°	45°	90°
7.	x	x	$x\sqrt{2}$
8.	3	3	$3\sqrt{2}$
9.	5	5	$5\sqrt{2}$
10.	12	12	$\sqrt{288}$ $12\sqrt{2}$
11.	$3\sqrt{3}$	$3\sqrt{3}$	$3\sqrt{6}$
12.	$\sqrt{6}$	$\sqrt{6}$	$\sqrt{12}$ $2\sqrt{3}$

$\frac{\sqrt{12}}{\sqrt{2}} = \sqrt{6}$

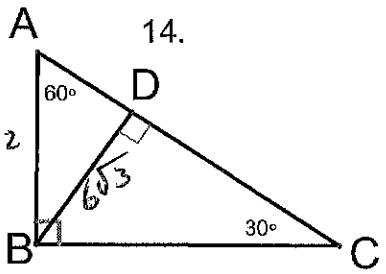
13. Given: Regular hexagon DUBLIN UB = 10. Find UL.



$10\sqrt{3}$

HINT: Draw UL, m∠B = 120°, what kind of triangle is ΔUBL?

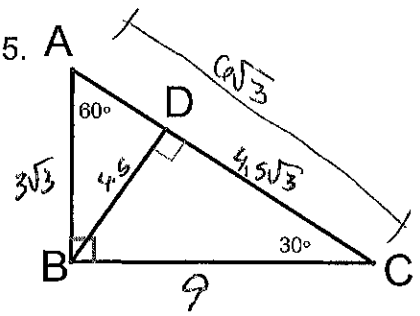
14.



30	60	90
6	$6\sqrt{3}$	12
$6\sqrt{3}$		$12\sqrt{3}$

14.
BD = $6\sqrt{3}$
AB = 12
BC = $12\sqrt{3}$

15.

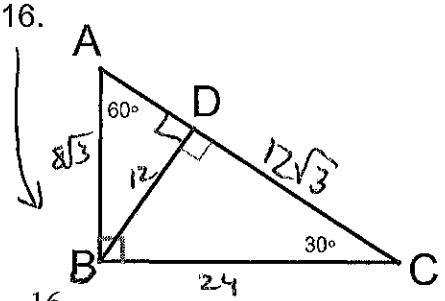


15.
BC = 9
DB = 4.5
AC = $6\sqrt{3}$

30	60	90
4.5		9
$3\sqrt{3}$	9	$6\sqrt{3}$

$\frac{9}{\sqrt{3}} \frac{\sqrt{3}}{\sqrt{3}} = \frac{9\sqrt{3}}{3} = 3\sqrt{3}$

16.



16.
CD = $12\sqrt{3}$
AB = $8\sqrt{3}$

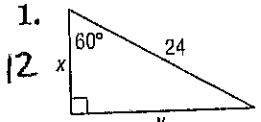
30	60	90
12	$12\sqrt{3}$	24
$8\sqrt{3}$	24	

NAME _____ DATE _____ PERIOD ____

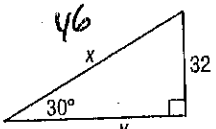
7-3 Skills Practice

Special Right Triangles

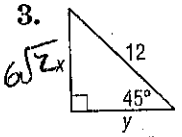
Find x and y.

1. 

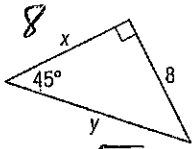
12 $12\sqrt{3}$

2. 

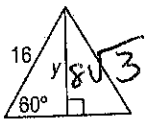
46 $32\sqrt{3}$

3. 

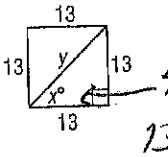
$6\sqrt{2}$ $6\sqrt{2}$

4. 

8 $8\sqrt{2}$

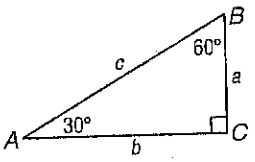
5. 

$8\sqrt{3}$ 8

6. 

45° $13\sqrt{2}$

For Exercises 7–9, use the figure at the right.



7. If $a = 11$, find b and c.

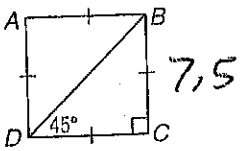
8. If $b = 15$, find a and c.

9. If $c = 9$, find a and b.

30	60	90
a	b	c
11	$11\sqrt{3}$	22
$5\sqrt{3}$	15	$10\sqrt{3}$
4.5	$4.5\sqrt{3}$	9

8 $4\sqrt{30}$ 7.5

For Exercises 10 and 11, use the figure at the right.



10. The perimeter of the square is 30 inches. Find the length of $\overline{BC}$.

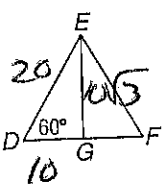
7.5

11. Find the length of the diagonal $\overline{BD}$.

$7.5\sqrt{2}$

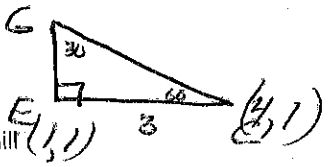
12. The perimeter of the equilateral triangle is 60 meters. Find the length of an altitude.

$10\sqrt{3}$



SKIP

13. $\triangle GEC$ is a 30°-60°-90° triangle with right angle at E, and $\overline{EC}$ is the longer leg. Find the coordinates of G in Quadrant I for $E(1, 1)$ and $C(4, 1)$.



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